

D/CLEC
Pre-Ordering and Ordering Guide
For
Electronic Loop Makeup
(LMU)

(Version 1, March 16, 2001 – Posted April 26, 2001)

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Electronic Loop Makeup (LMU)

Chapter 2.0 – Introduction

2.1 Purpose and Scope

This Information Package is intended to provide D/CLECs (Data/Competitive Local Exchange Carriers) a description and general information specific to processing an electronic request for Loop Makeup (LMU). This document is an original version and does not address Loop Modification.

Please contact the BellSouth SME (Subject Matter Expert) for BellSouth *Electronic* Loop Makeup if you have questions about the information contained within.

2.2 Disclaimer Statement

The information contained in this document is subject to change. BellSouth will provide notification of changes through the D/CLEC Carrier Notification Process.

2.3 Version History/Control

Any future modifications and/or improvements that are made to this package will be reflected accordingly in this section of the document.

Section	Date/Issue	Description
All	03/16/01 – Issue 1.0	Initial Issue Release

Electronic Loop Makeup (LMU)

Chapter 3.0 – Overview

3.1 Electronic Loop Makeup Overview

Loop Makeup is described as the physical characteristics of the loop facilities, starting at the BST (BellSouth Services Telecommunications) CO (Central Office) listed in chronological order and ending at the service distribution terminal. LMUs consist of cable gauge and length, BTs (Bridge Taps, LCs (load coils), presence of DLC (Digital Loop Carrier) and any other equipment that is part of the local loop facilities.

BellSouth's provision of loop data to the requesting D/CLEC is contingent upon the ownership considerations of the loop whether by BellSouth or the requesting D/CLEC. The requesting D/CLEC is **not** authorized to receive loop data on a loop owned by another D/CLEC.

The loop makeup of **spare** facilities may be requested with **or** without reservation. Quite simply this means that the D/CLEC has the option of reserving or not reserving the facilities.

In summary, the functionality of the electronic loop makeup deployment allows the requesting D/CLECs to:

- Determine loop “makeup” detail on specific facilities
- Determine independently if an end user's loop is capable of supporting their implementation of xDSL (Digital Subscriber Line) or line sharing services
- View existing facilities (identified telephone number or circuit ID (Identifier) when the facilities are owned by the submitting D/CLEC or BellSouth
- Query for new/spare facilities owned by BellSouth
- Reserve new/spare facilities for ninety-six (96) hours
- Cancel unneeded reservations for new/spare facilities within the ninety-six (96) hour timeframe.

Electronic Loop Makeup (LMU)

Chapter 4.0 – General Guidelines

4.1 Availability

BellSouth offers this service in all nine states within the BellSouth region.

4.2 Standard Service Interval

The Standard Service Interval for response to an electronic LMU request is near real time. Once the request is initiated, loop data will be obtained via BellSouth's Loop Facilities Assignment and Control System (LFACS). The information returned to the D/CLEC from LFACS will be discussed in detail later in this document.

4.3 Contract Specific Guidelines

Before an electronic request for LMU may be submitted, the D/CLEC must have an Interconnection Agreement that includes terms, conditions, and rates for the LMU inquiries being requested. This agreement must be in effect for all states where the D/CLEC plans to provide telecommunications services, as stipulated in the terms and conditions identifying those states wherein the D/CLEC is or seeks to become a certified alternative/competitive local exchange carrier for that state.

The information contained herein applies to the preordering LMU general service offering and is part of the standard BellSouth Interconnection Agreement. This general service offering is in accordance with BellSouth policies, procedures, and regulatory obligations as well as the Standard Interconnection Agreement.

This general service offering does not address specific contract issues within a D/CLEC's Interconnection Agreement that may differ from this offering. Where specific contract issues differ from the information provided here, the contract provisions would prevail for the term of the contract.

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Electronic Loop Makeup (LMU)

Chapter 4.0 – General Guidelines

The respective Account Team representative for each D/CLEC should be contacted if questions arise concerning contract provisions.

4.4 D/CLEC Responsibilities

BellSouth provides LMU service to allow the D/CLEC the opportunity and responsibility of determining the qualification for itself of BellSouth's loops for the specific services that the D/CLEC wishes to provide over certain loops. BellSouth further recognizes that the D/CLEC may choose to use equipment that it deems will enable it to provide a certain type and level of service over a particular BellSouth loop. However, such configurations may not match BellSouth's standards and specifications for the intended type and level of service. Accordingly, the D/CLEC bears full responsibility for being knowledgeable of BellSouth's standards and specifications for BellSouth's loops. The D/CLEC also bears full responsibility for making the appropriate ordering decisions of matching BellSouth loops with D/CLEC equipment that will accomplish the D/CLEC's goal for the intended service it wishes to provide its end user(s).

The D/CLEC is responsible for any of its service configurations that may differ from BellSouth's technical standard of that service. BellSouth reserves the right to change out the originally assigned facility for another facility that matches the BellSouth technical standards of the loop ordered by the D/CLEC.

Electronic Loop Makeup (LMU)

Chapter 5.0 – Ordering Information

Electronic Loop Makeup may be ordered in several ways. The method discussed in this guide is LENS (Local Exchange Navigation System)

5.1 LENS

The D/CLEC can request electronic loop makeup through LENS. LENS is an on-line, interactive, menu driven system that permits subscribers to perform pre-order inquiry functions and process requests for various products, features, and services currently offered by BellSouth.

For additional information on LENS, the D/CLEC should contact their specific Account Team representative or review the Customer Guides section of the BellSouth Interconnection Services Web site at:

http://www.interconnection.bellsouth.com/guides/html/lens_tafi.html

5.2 D/CLEC LENS Required Input

The D/CLEC xDSL pre-order LMU transaction in LENS requires the user to input certain data based on the specific type of facility involved.

From the LENS Main Menu, click Inquiry. The Inquiry Screen will appear. From the pull down menu select one of the following:

- **Loop Makeup for Working Loops** (existing facilities)
- **Loop Makeup for Spare Facilities** (new or spare facilities)
- **Cancel Facilities Reservation** (cancel previously reserved loop makeup facilities)

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Electronic Loop Makeup (LMU)

Chapter 5.0 – Ordering Information

Existing Facilities

For existing facilities, the **Loop Makeup for Working Loops** will be selected. The following **required** data will be entered:

- Enter the telephone number or circuit ID
- Select the area where the telephone number or circuit ID is located
- Once the above information is entered, click “proceed with inquiry”.

The next screen, **Processing Request**, will come up with the following message:

Processing

The loop makeup request normally takes 30-45 seconds to process – please wait for a response before proceeding.

The information returned from LFACS as a result of this inquiry will be discussed in **Chapter 6.0 Output Returned From LFACS** beginning on Page 10 this document.

New or Spare Facilities

For requests for loop makeup involving **new** or **spare** facilities, the **Loop Makeup for Spare Facilities** should be selected and the following **required** entries made on the Inquiry Menu:

- Enter the telephone number or circuit ID
- Select the area where the telephone number or circuit ID is located
- Once the above information is entered, click “proceed with inquiry”.

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Electronic Loop Makeup (LMU)

Chapter 5.0 – Ordering Information

If the address of the telephone number or circuit ID on the previous page has not been validated, it will be validated automatically at this time through LENS. This will be discussed in **Chapter 6.0 Output Returned From LFACS** beginning on Page 10 of this document.

Once the address has been validated, click “Continue with Loop Makeup”.

The next screen will require that the following data be entered:

- Loop Service type required
- Number of loops being seared for: 1 – 10

After the above data had been entered, select one of the following options:

- Submit for Inquiry
- Submit Reservation Request

The next screen, **Processing Request**, will come up with the following message:

Processing

The loop makeup request normally takes 30-45 seconds to process – please wait for a response before proceeding.

Cancel Reserved Loop Makeup Facilities

At the time the loop makeup data is returned from LFACS, a Facility Reservation Number (FRN) is included in the returned data. This is a reservation number on the facilities on which loop makeup was verified. Should the D/CLEC determine that the reserved facilities are not needed, they should be canceled. Select the **Cancel Facilities Reservation** option.

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Electronic Loop Makeup (LMU)**Chapter 5.0 – Ordering Information**

Enter the following **required** data on the Inquiry Menu:

- Enter the telephone number or circuit ID
- Select the area where the telephone number or circuit ID is located
- Once the above information is entered, click “Continue to Loop Makeup”.
- On the Cancel Loop Reservation Screen, enter the FRN in the **Reservation ID (RESID)** space.
- Click **Cancel Loop Reservation** to process the request.

Electronic Loop Makeup (LMU)
Chapter 6.0 - Output Returned From LFACS

It is important to understand the output information provided by LFACS. This includes the following:

- Loop Makeup Data Definitions
- System Names for Digital Loop Electronics

6.1 Loop Makeup Data Definitions

The definitions beginning below and continuing on the next page will be helpful in interpreting the loop makeup data returned from LFACS.

Name	Definition	Size
LOOP	Loop aggregate, 1 occurrence for working circuit, up to 10 occurrences for spare facilities	
LPSTAT	Loop status: WKG=working circuit, PND-IN=pending-in circuit, PND-OUT=pending-out circuit, CT=connect-through, CF=connected facility, SP=spare	1-7A
MTR	Meets transmission requirements indicator: Y or Null	1A
RTF	Receive/Transmit Indicator: Identifies if pair is used to support the receive or transmit side of a 4-wire service (e.g., R=receive pair, T=transmit pair)	1A
SSC	Single Subscriber Carrier Indicator: identifies that two circuits are associated with the physical loop (e.g., P=physical pair of AML, D=derived pair of AML; 1=Channel One, UDC Device, 2= Channel Two, UDC Device; A=Channel One, DSSC Device, B=Channel Two, DSSC)	1AN
RZ	Resistance Zone: indicator of the subscriber loop resistance limits of a particular geographic area. Used for metal facilities (e.g., RZ13=1300 ohms, RZ15=1500 ohms).	1-2 N

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Chapter 6.0 - Output Returned From LFACS

CZ	Carrier Zone: indicator of maximum resistance between the remote terminal cabinet and the customer serving terminal. Used for derived facilities only (e.g., CZ9=900 ohms)	1-2 N
TPR	Taper Code: design characteristics of segment of plant (Not returned to the end user – for reporting purposes only)	1-6 AN
FN	Segment Aggregate, 1-9 occurrences per loop	
CA	Cable identifier of specific feeder or distribution cable within a wire center	1-10AN
PR	Pair Identifier of unique pair within a cable	1-4AN
ABP	Assignable Binding Post Identifier associated with a fiber channel	1-4N
TEA	Terminal Identifier	1-50AN
CQ	Count Qualification Code associated with a pair appearance at a terminal	1-2AN
CD	Count De-specialization Code associated with a pair appearance at a terminal	1-2AN
TRMED	Transmission Medium Type or system type supporting the loop segment (e.g., METAL, SLC96)	1-9AN
TLM	Telemetry Indicator: special pair conditions indicator (e.g., ADE=air dryer, CPT=cable pressure transducer)	1-4 AN
RLA	Remote Location Address: address of remote location	1-50 AN
RLC	Remote Location CLLI: Common language location identifier of remote location	1-11AN
LTS	Line Terminal Status: indicator of the field-side or CO-side plug-in device equipped or pre-engineered in the pair gain system of the facility supporting the segment of plant. The field-side LTS code will be populated unless the field side LTS is NREQ (not required), in which case the CO-side LTS code will be populated.	1-4 AN
RLOE	Remote Location Originating Equipment: code used to identify a particular type of remote switching device, DSLAM terminal or splitter (e.g., RSU, DSLMRT, LSPLTR)	1-7 AN

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Electronic Loop Makeup (LMU)
Chapter 6.0 - Output Returned From LFACS

ONUTYPE	Optical Network Unit Type: the system type of the ONU. (e.g., Marconi DISC*S=DISCS or Alcatel Litespan=LTSP2)	1-9 AN
LMU	Loop Makeup Aggregate, 1 per segment	
LMSTAT	Loop Makeup Status or status of count makeup for that segment (e.g., ?? (indicates the makeup is questionable or possibly invalid), OK (indicates the makeup entered is valid), MAN or MANUAL (indicates the makeup requires manual routing to TIRKS for DLR))	1-6AN
LUINT	Length Unit (e.g., KF=kilofeet, FT=feet, MI=miles)	1-2AN
NLD	Load Point Number identifies the number of load coils on this count segment only. (If blank, but COIL is populated, the default is the 6KF rule, meaning a load coil is placed every six kilofeet down the length (backbone, main run) of the pairs).	1-2N
COIL	Load Coil Type: type of load coil associated with a cable count. If the first character of the load field is alphabetic, the alphabetic character is excluded from the stated code (e.g., H88, 22,44,66,88,135,175; this is normally H88 meaning 88 millihenry inductance with "H" spacing, normally one inductor per 6000 feet. An entry in the load type field signifies the pairs are loaded).	1-4AN
ES	End Section: central office end section defines the distance from the central office to the first load coil. Required on loaded F1 pairs, including derived ("PG") cables that originate at subscriber carrier remote terminals.	1-8N w/dec pt
LDSP	Load Spacing: lengths between load coils of a segment. The entries are in order, starting at the Central Office end, and are separated by commas. The first entry for an F1 cable represents the distance from load point #1 (closest to the CO) to load point #2. For cables that originate at a cross connect terminal, the first entry is the distance from the cross connect terminal to the first load point beyond it. If blank, but COIL is populated, the default is the 6KF rule, meaning a load coil is placed every six kilofeet down the length (backbone, main run) of the pairs.	1-9N w/dec pt
BO	Build Out Aggregate, Occurs 1-2 times per LMU aggregate	
BOCAP	Build Out Capacity is the capacitance in microfarads (μf) of the build out (e.g., .083).	1-5N w/dec

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Chapter 6.0 - Output Returned From LFACS

BORES	Build Out Resistance is the resistance in ohms of the build out.	1-5N
BOOFF	Build Out Offset is the distance from the central office side of the segment to the build out in KF/FT/MI.	1-9N w/dec pt
SPL	Splice Section Aggregate occurs 1-10 times per LMU aggregate	
GA	Gauge (thickness) of the cable section (e.g. 19, 22, 24, 26)	1-7AN
LGTH	Length of the cable gauge	1-9N w/dec pt
UBA	Type of cable (e.g., underground=U, buried=B, aerial=A) (optional)	1A
CAPAC	Capacitance: the capacitance in microfarads (µf) per mile of a cable gauge (total capacitance if referring to a bridge tap).	1-5N w/dec
BTOFF	Bridge Tap Offset: bridge tap offset indicates if a gauge length is bridge tap. A data value of X or Y indicates the gauge length is a bridge tap and the offset of the bridge tap is equal to the sum of the prior non-bridge tap segment lengths. A numeric value specifies the distance from the beginning of the cable to the start of the bridge tap. Decimal points are valid.	1-9AN w/dec pt

6.2 LFACS and LMOS System Names for Digital Loop Electronics

The following chart represents approved and unapproved products. It is for staff use only.

COT	RT	SLC-96 Description	LFACS	MODE	LMOS
SLC-96	SLC-96	Universal - Mode 1, 2, 3	SLC96	1, 2, 3	SLC96
None	SLC-96	Integrated - Mode 1, 2	ISLC96	1, 2	SLC96
None	SLC-96	Integrated - Sidedoor Port (SDP)/Digital Cross connect System (DCS) - Mode 1, 2	ISLC96	1, 2 SDP=D	LSLC9
FCO	SLC-96	INA (Integrated Network Access) - Mode 1, 3 system non-locally switched, no local switch appearance, trunked to Foreign C.O. (FCO)	LSLC96	1, 3	NSLC9

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Chapter 6.0 - Output Returned From LFACS

COT	RT	SLC-5 Description	LFACS	MODE	LMOS
SLC-5	SLC- 5	Universal - FPC at C.O., EFPB Mode 1 at RT e/w Auto Cut	SLC5	1	SLC5
SLC-96	SLC- 5	Universal EFPB - Mode 1, 2	96SL5	1, 2	96S51, 96S5
None	SLC- 5	Integrated EFPB - Mode 1, 2	ISLC5	1, 2	5M1, 5M2
None	SLC- 5	Integrated - SDP/DCS - EFPB Mode 1, 2	ISLC5	1, 2 SDP=D	LSLC5
FCO	SLC- 5	INA - EFPB Mode 1	LSLC5	1	NSLC5
None	SLC-5	FP303	IS5T	n.a.	S5T
COT	RT	Fujitsu Description	LFACS	MODE	LMOS
FDLC	FDLC	Universal - Mode 1, 2, 3	FDLC	1, 2 , 3	FM1, FM2, FM3
None	FDLC	Integrated - Mode 1, 2	IFDLC	1,2	FM1, FM2
None	FDLC	Integrated - SDP/DCS - Mode 1, 2	IFDLC	1,2 SDP=D	LFDLC
FCO	FDLC	INA - Mode 1, 3	LFDLC	1,3	NFDLC
SLC-96	FDLC	Universal - Mode 1, 2, 3	96FD	1,2,3	96FM1,96FM 96FM3
COT	RT	DMS-1 Urban Description	LFACS	MODE	LMOS
DMS-1U	DMS-1U	Universal DMS-1 Urban	DMS1U	n.a.	DMS1U
None	DMS-1U	Integrated DMS-1 Urban	IDMS1U	n.a.	DMS1U
None	DMS-1U	Integrated - SDP/DCS	IDMS1U	n.a. SDP=D	LDMSU
FCO	DMS-1U	INA	LDMS1U	n.a.	NDMS1

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Chapter 6.0 - Output Returned From LFACS

COT	RT	PAIR GAIN - OTHER Description	LFACS	MODE	LMOS
D4	D4	Universal D4 channel Banks, Pulsecom BusinessBank	DCB	n.a.	DCB
FCO	D4	INA	DCBINA	n.a.	NDCB
PG-Flex	PG-Flex	Universal PG-Flex	PGFLX	n.a.	PGFLX
PG-Flex – Plus	PG-Flex	Integrated TR08	IPGPLUS	N/A	IPGPLUS
None	PG-Flex – Plus	Integrated TR08	IPGPLUS	N/A	IPGPLUS
8UMUX	8UMUX	Fitel-MUX 8UMX BRI Extension System - 8 ISDN Lines (not approved)	8UMUX	n.a.	8UMUX
SLC-96	RMT	Conklin 357/358 BRITEmux™ RMT Multiplexer - 8 ISDN lines (not approved)	BMX96	1	BMX96
D4	RMT	Conklin 357/358 BRITEmux™ RMT Multiplexer - 8 ISDN lines (not approved)	BMXD4	n.a.	BMXD4
SLC-5	RMT	Conklin 357/358 BRITEmux™ RMT Multiplexer - 8 ISDN lines (available 1H97)	BMXS5	not available	BMXS5
ISC303	ISC303	NEC ISC-303 (for ISDN) - (not approved)	UISC	n.a.	UISC
None	ISC303	NEC ISC-303 Integrated TR08/303 (not approved)	IISC	1,n.a.	IISC
None	ISC303	NEC ISC-303 Integrated Mode 1 using sidedoor port TR-08 (not approved)	IISC	1 SDP=D	IISC
SLC-96	ISC303	NEC ISC-303 - TR-08 (not approved)	96ISC	1	96ISC
BBT	BBT	Broadband Technologies	BBT	n.a.	BBT
COT	RT	Lucent - SLC-2000 Description	LFACS	MODE	LMOS
SLC2000	SLC-2000	Universal - Mode 1, 2	SLC2T	1, 2	SLC2T
SLC-96	SLC-2000	Universal - Mode 1, 2	96SLT	1, 2	96SLT
None	SLC-2000	Integrated - Mode 1, 2	ISLC2T	1, 2	ISLC2
None	SLC-2000	Integrated - SDP/DCS - Mode 1, 2	ISLC2T	1, 2 SDP=D	LSLC2
FCO	SLC-2000	INA - Mode 1	LSLC2T	1	NSLC2
None	SLC-2000	TR303	ISL2T	n.a.	ISL2T

For typical responses received from LFACS, refer to the **Electronic Pre-Order Loop Makeup Job Aid for LENS** that may be obtained from your Account Team.

Electronic Loop Makeup (LMU)**Chapter 7.0 – Acronyms**

ABP	Assignable Binding Post
BO	Build Out Aggregate
BOCAP	Build Out Capacity
BOOFF	Build Out Offset
BORES	Build Out Resistance
BST	BellSouth Services Telecommunications
BT	Bridge Tap
BTOFF	Bridge Tap Offset
CAPAC	Capacitance
CO	Central Office
CQ	Count Qualification Code
D/CLEC	Data/Competitive Local Exchange Carrier
DCS	Digital Cross Connect System
DLC	Digital Loop Carrier
DMS	Data Management System
DQ	Count Despecialization Code
ES	End Section
FRN	Facility Reservation Number
GA	Gauge

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Electronic Loop Makeup (LMU)**Chapter 7.0 – Acronyms**

ID	Identifier
INA	Integrated Network Access
LC	Load Coil
LDSP	Load Spacing
LENS	Local Exchange Navigation System
LFACS	Loop Facilities Assignment and Control System
LGTH	Length
LMSTAT	Loop Makeup Status
LMU	Loop Makeup
LPSTAT	Loop Status
LUINT	Length Unit
MTR	Meets Transmission Requirements
NLD	Load Point Number
PR	Pair Identifier
RESID	Reservation ID
RTF	Receive/Transmit Indicator
SDP	Sidedoor Port
SLC	Subscriber Loop Carrier
SME	Subject Matter Expert
SPL	Splice Section Aggregate

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Chapter 7.0 – Acronyms

SSC	Single Subscriber Carrier
TEA	Terminal Identifier
TRMED	Transmission Medium Type
UBA	Type of Cable (Underground, buried, or aerial)
xDSL	Digital Subscriber Line